

ACD Quality Assurance How To List

WOAs

1. WOAs require QA approval at any level beyond PWB or mechanical assembly level. Basically, if the WOA requires interfacing with another subsystem or testing at the box level, QA must review and approve the WOA BEFORE work is started.
2. The first task (entry) on any WOA shall be verification of documentation and hardware associated with the WOA. Material certs, Certificate of compliance or conformance from vendor, chemical analysis of materials or other documentation that verifies the materials to be used. Also check that the drawing and other documentation is the latest and under CM control. This is the subsystem leads responsibility to ascertain that all is in order before proceeding.
3. The last step (task) on the WOA shall be for QA to review all documentation and hardware before further processing to the next higher level. (even if it goes to storage)
4. The original WOA shall remain with the hardware until the hardware is incorporated into the next higher level of assembly. A copy of the WOA will then be incorporated into the assembly package. The original WOA (once signed off as completed with all associated NCRs closed) will be forwarded to CM for archiving.

Test Procedures

The first line in any test procedure related to final testing of flight hardware (again beginning at the subsystem level) shall state “Notify QA 24 hours prior to the start of this test. QA will verify test equipment set up and calibration, review current documentation and decide if their presence is required during the testing phase.” Any verbiage stating “cure epoxy or polymer” should state at what temperature and how long- not just per manufacturers instructions.

Additionally, if the test has pass fail criteria, make certain that this information is included.

QA shall be the last person to signoff on test procedures. If a follow on report is due, the test proc shall remain open until the report is issued. Then the proc can be closed with QA approval.

Procurements

All flight hardware procurements must be routed through Code 303 prior to release for approval. To facilitate the process, the lead engineer may want to call QA and alert them to the incoming procurement. This will help speed up the process.

Assembly of Flight Hardware

Any assembly of flight hardware that requires torquing of fasteners shall be witnessed by QA. These steps shall be called out in the WOA with Code 303 as the responsible party to sign off on the step. Application of any polymerics requires OJT or a detailed Work Instruction that outlines the need for documentation and dated witness samples linked to the WOA.

Nonconforming Material and Test Reports NCRs

GSFC quality policy (GPG 5340.3G) requires that all non-conformances found in materials, fabrication, assembly or testing be documented in the on line NCR system. No subset of lesser documentation is permitted. Minor nonconformances do not require corrective action implementation.

Simple scratches in surfaces that might not affect performance still need to be entered and dispositioned. It is everyone's responsibility (not just QA) to capture these non-conformances and document the corrective action. If the scratch is minor, then the disposition is easy. If however, the scratch impairs the optical or detector ability to accurately provide the required data, the corrective action will require more detail. We have had this experience where when first aligned the scratch wasn't in the field of view. But when final alignment altered the set up, the scratch was in the FOW and caused a major delay. So, if it's there report it and let the system handle the disposition.

Quality Assurance Inspectors and Engineers

Eileen Fowler is the Quality Assurance Engineer assigned full time to the ACD project. She is the person responsible for all ACD QA related activities and must be contacted prior to the start of any testing or assembly of flight hardware. Tavi and Ron Kolecki will serve as her back up when needed.

For all QA related questions, contact Eileen first and then either Tavi Alvarez, 6-4827 or Ron Kolecki at 6-9399 (pager 888-372-4118).